REVISED VERSION

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 27 January 2005 (27.01.2005)

PCT

(10) International Publication Number WO 2005/007669 A1

(51) International Patent Classification7: 13/00, 51/00, A61K 31/575, A61P 31/04

C07J 9/00.

(21) International Application Number:

PCT/DK2004/000491

(22) International Filing Date: 9 July 2004 (09.07.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PA 2003 01080 16 July 2003 (16.07.2003) DK 60/487.609 17 July 2003 (17.07.2003) PA 2003 01486 9 October 2003 (09.10.2003) DK

(71) Applicant (for all designated States except US): LEO PHARMA A/S [DK/DK]; Industriparken 55, DK-2750 Ballerup (DK).

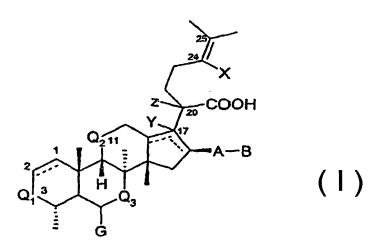
(72) Inventors; and

(75) Inventors/Applicants (for US only): DUVOLD, Tore [NO/DK]; Thorvaldsenvej 21, 4.th, DK-1871 Frederiksberg C (DK). BRETTING, Claus, Aage, Svensgaard [DK/DK]; Smallegade 42, 4.tv, DK-2000 Frederiksberg (DK). RASMUSSEN, Poul, Rødbroe [DK/DK]; Harevej 2, DK-3600 Frederkssung (DK). BOUÉRAT, Laetitia [FR/DK]; Bille Brahes Vej 12, 4.tv, DK-1963 Frederksberg C (DK). THORHAUGE, Jacob [DK/DK]; Drosselvænget 13, DK-2750 Ballerup (DK).

- (74) Agent: THALSØ-MADSEN, Birgit; Head of Patent Section, Leo Pharma A/S, Industriparken 55, DK-2750 Ballerup (DK).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI. GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: NOVEL FUSIDIC ACID DERIVATIVES



(57) Abstract: The present Invention relates to novel fusidic acid derivatives of general formula (I) wherein X represents halogen, trifluoromethyl, cyano, azido, alkyl, alkenyl or aryl, wherein said alkyl, alkenyl or aryl are optionally substituted by one or more, same or different substituents selected from the group consisting of alkyl, alkenyl, aryl, alkoxy, nitro, alkylthio, halogen, azido, trifluoromethyl and cyano; Y and Z both' represent hydrogen, or together with the C-17/C-20 bond form a double bond between C-17 and C-20, or together are methylene and form a cyclopropane ring in combination with C-17 and C-20; A represents a bond,. O, S or S(O); B represents C₁₋₆ alkyl, C2-6 alkenyl, C₁-6 acyl, C₃₋₇cycloalkylcarbonyl or benzoyl. all of which are optionally substituted with one

or more substituents selected from the group consisting of halogen, hydroxy, alkoxy, aryl, heteroaryl and azido, or, if A represents a bond, B may also represent hydrogen; Q1 and 'Q2 independently represent. -CH2-, -C(O)-, -(CHOR)-, -(CHOR)-, -(CHSH)-, -(NH), -(CHNH2)- or -(CHW)-., wherein R represents C1-6alkyl and W represents halogen, cyano, azido or trifluoromethyi; Q3 represents -CH2-, -C(O)- or -CHOH-; G represents hydrogen, OH or O-CO-CH3: two bonds in the pentacyclic ring being depicted with full and dotted lines to indicate that either of the two bonds may be a double bond, in which case Y is absent and Z represents hydrogen; the bond between C-1 and C-2 being either a single or a double bond; and pharmaceutically acceptable salts and easily hydrolysable esters thereof, to pharmaceutical compositions comprising said derivatives, as well as to their use in therapy.

WO 2005/007669 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the revised international search report: 17 March 2005
- (15) Information about Correction: see PCT Gazette No. 11/2005 of 17 March 2005, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.